NOTES ON ALOE FEROX MILL., AND A. SUPRALAEVIS HAW., WITH A NEW NAME FOR A NATAL ALOE.

(With Plates 16—18.)

By G. W. Reynolds.

Berger (in Engler: Das Pflanzenreich, Liliac.-Asphodel.-Aloin. p. 310) records *A. ferox* Mill. from Ladysmith, Natal. He does not give any Cape locality for this species, with the result that many now regard certain Natal plants as belonging to *A. ferox* Mill., and certain smooth leaved plants in the Cape Province as being *A. supralaevis* Haw.

The purpose of this paper is to establish the true identity of *A. ferox* Mill. and *A. supralaevis* Haw., to prove that both species must have originated from the Cape *and are conspecific*, to show that the Cape and Natal plants are specifically distinct, and that Berger was therefore incorrect in naming the Natal species *A. ferox* Mill. which consequently must be renamed.

Miller's first description of *A. ferox* (in *Gard. Dict.* ed. 8. (1768) n. 22) is as follows :—

> "Aloe (*ferox*) foliis amplexicaulibus nigricantibus undique spinosis. *Aloe with dark green leaves embracing the stalks, which are beset with spines on every side.* Aloe vera costa spinosa. Munt. Phyt. Commonly called Aloe ferox."

In the subjoined notes Miller states "The twenty-second sort rises to the height of ten feet, with a strong stem, the leaves grow on the top, which closely embrace the stalk . . . They are of a green colour, and closely beset with short thick spines on every side. This sort has not yet flowered in England, nor does it put out suckers." He gives no locality of origin.

I have not succeeded in tracing a copy of *Muntingius' Phytographia* (1702) in South Africa, but in his *Aloidarium* 1680, fol. 23, an *Aloe vera costa spinosa* is figured. This certainly does not appear to belong to *Aloe*, and it seems that Miller was mistaken with his synonym. The plant figured by Muntingius bears little or no resemblance to the Cape *A. ferox*.

Lamarck (Lam. Encycl. 1. (1783), p. 87) referring to *A. ferox* Mill., gives only one synonym, *i.e.* Comm. Prael. 70. t.19. Haworth in *Trans. Linn. Soc.* VII (1804) p. 22 cites Mill. Dict. n.22, but excludes Muntingius' synonym ; he cites "*Comm. Pr.* t.19," and adds "This is the loftiest of the Aloes ; I have seen it near 20 feet high. It is also the roughest leaved."

As regards Commelin's *Praeludia Botanica* (1703) p. 70, fig. 19, which the author describes as "*Aloe Africana caulescens, foliis glaucis caulem amplectentibus latioribus and undiquaque spinosis*," this is cited in the synonymy of *A. ferox* Mill. by the following workers : De Candolle in *Plant. Grass.* (1799) t.32, Simms in *Bot. Mag.* (1818) t.1975, and Baker in *Journ. Linn. Soc.* XVIII (1880) 179. This proves fairly conclusively that Commelin published the first representation of the species and not Muntingius.

De Candolle (l.c.) also cites Miller's synonym *Munt. Phyt.* p. 20, f. 95, previously discussed, and in addition he cites *Munt. Aloid.* p. 16, f. 17, but this is an obvious error. Muntingius in his *Aloidarium* 1680 (which is added to his *Herba Britannica* 1681) does publish an "*Aloe ferox*," fol. 17, but the plant illustrated without flowers is certainly not an *Aloe* and must belong either to *Agave* or an allied genus.

When dealing with Commelin's figures of *Aloe*, it is important to bear in mind that the first sentence of the text dealing with his first *Aloe* (that is, p .68, fig. 17) reads as follows :—

> "Anno millesimo septingentesimo semina a Strenuissimo Promontorii Bonae Spei Gubernatore Wilhelmo Adriano vander Stel missa hanc & quinqui sequentes Aloes species produxerunt."

The first six *Aloe* figures are Nos. 17, 18, 19, 20, 21, and 22, hence, *A. ferox* (fig. 19) was one of the species raised from seed sent to Holland by Wilhelm Adrian van der Stel in 1700, and figured when very young.

Some of the earliest publications give no locality of origin for *A. ferox*, but Haworth (1.c.) records it from *Caput Bonae Spei*, while Aiton in *Hort. Kew.* vol. II (1811) p.293 says that the "Great Hedgehog Aloe" is a native of the Cape of Good Hope, cultivated by Miller in 1750. Simms (1.c.) has the same information except that he gives the date of cultivation by Miller as 1759. From all the evidence, *A. ferox* unquestionably came from the Cape, a very probable locality being the Swellendam district, which is its nearest habitat to Cape Town, and where the earliest botanical collectors would most likely first have discovered it.

Judging by the various descriptions, *A. ferox* is characterised by a stem up to 20 feet, *leaves spiny on both surfaces*, a candelabra-like inflorescence bearing erect racemes with flowers evenly distributed around the axis. No mention is made of *sub-erect* or *oblique* racenes ; this is a character of the Natal species to which further reference is made later.

As regards *A. supralaevis* Haw. (*Trans. Linn. Soc.* VII. 1804 p. 21), this species was also founded on leaf characters only, the first publication reading :—

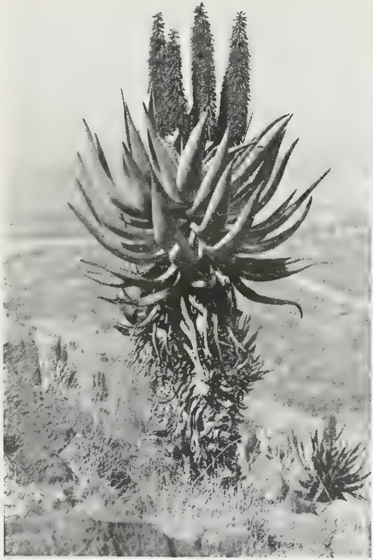


Fig. 1.

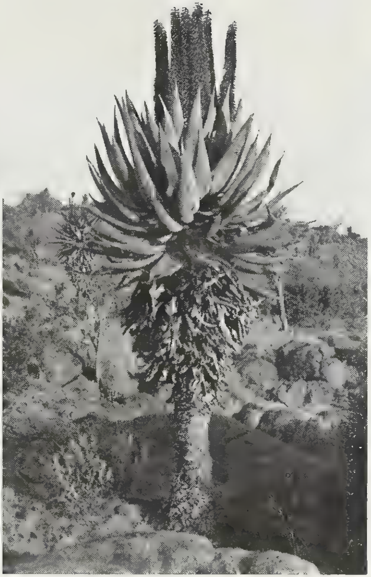


Fig. 2.

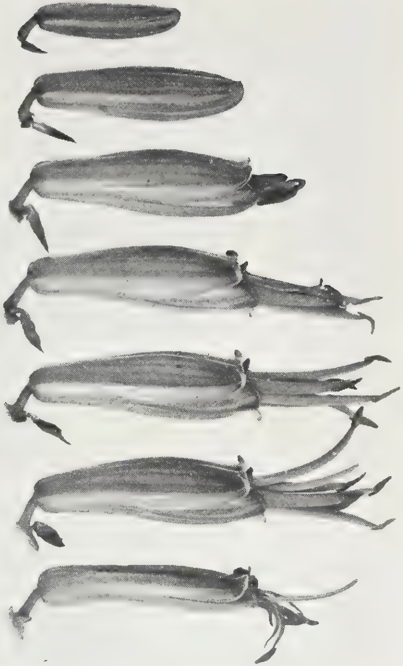
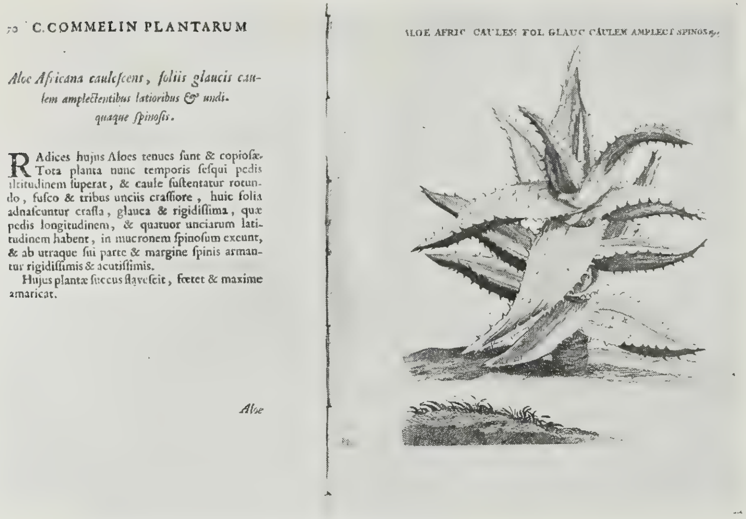


Fig. 3.

Plate 17. *Aloe ferox* Mill., var. *Galpini* (Bak) Reynolds.
Fig. 1. Plant fl. 31 August, 1936, rocky slopes near Bongolo Dam, Queenstown.
Fig. 2. Plant in natural habitat on hills near Bailey, about 10 miles N.W. of Queenstown, fl. 31 August, 1936.
Fig. 3. Flowers natural size, from bud to post-pollination stage.



70 C.COMMELIN PLANTARUM

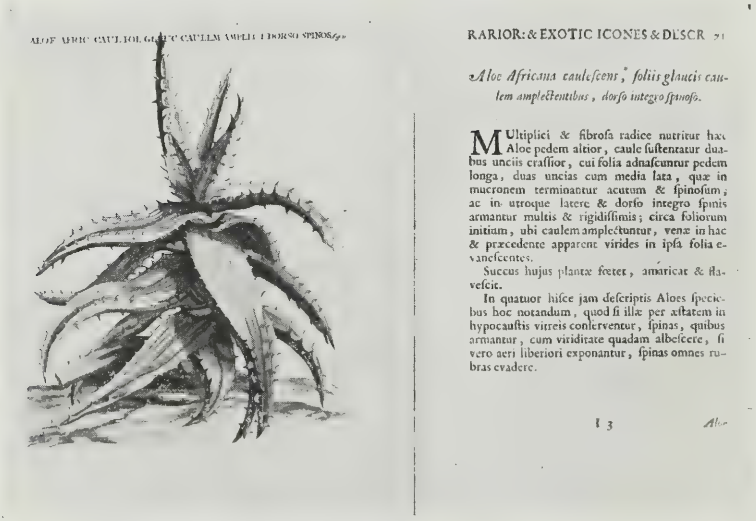
Aloe Africana caulefcens, foliis glaucis caulem amplectentibus latioribus & undiquaque ſpinoſis.

RAdices hujus Aloes tenues ſunt & copioſæ. Tota planta nunc temporis ſeſqui pedis altitudinem ſuperat, & caule ſuſtentatur rotundo, fuſco & tribus unciis craſſiore, huic folia adnaſcuntur craſſa, glauca & rigidiſſima, quæ pedis longitudinem, & quatuor unciarum latitudinem habent, in mucronem ſpinoſum exeunt, & ab utraque ſui parte & margine ſpinis armantur rigidiſſimis & acutiſſimis.

Hujus plantæ ſuccus flaveſcit, fœtet & maxime amaricat.

Aloe

Fig. 1.



ALOE AFRIC CAUL FOL GLAUC CAULEM AMPLECT DORSO SPINOS

RARIOR: & EXOTIC ICONES & DESCR 71

Aloe Africana caulefcens, foliis glaucis caulem amplectentibus, dorſo integro ſpinoſo.

MUltiplici & fibroſa radice nutritur hæc Aloe pedem altior, caule ſuſtentatur duabus unciis craſſior, cui folia adnaſcuntur pedem longa, duas uncias cum media lata, quæ in mucronem terminantur acutum & ſpinoſum; ac in utroque latere & dorſo integro ſpinis armantur multis & rigidiſſimis; circa foliorum initium, ubi caulem amplectuntur, venæ in hac & præcedente apparent virides in ipſa folia evaneſcentes.

Succus hujus plantæ fœtet, amaricat & flaveſcit.

In quatuor hiſce jam deſcriptis Aloes ſpeciebus hoc notandum, quod ſi illæ per æſtatem in hypocauſtis vitreis conſerventur, ſpinas, quibus armantur, cum viriditate quadam albeſcere, ſi vero aeri liberiori exponantur, ſpinas omnes rubras evadere.

I 3 *Aloe*

Fig. 2.

Plate 16.

Fig. 1. Commelin: *Praeludia Botanica* (1703), p. 70, fig. 19, regarded as representing *Aloe ferox* Mill.

Fig. 2. Comm. (l.c.), p. 71, fig. 20, considered to be *A. supralaevis* Haw.

"A. supralaevis. Aloe foliis oblongo-ensiformibus rigidis glaucescentibus ; supra laevibus, infra irregulariter spinosis."

It will be noted that in Haworth's type only the upper surface is smooth, the lower being "irregularly spiny," while no locality is given. In his second publication (*Syn. pl. succ.* 1812. p. 76) Haworth merely adds "*Caule fruticoso simplici*" and records the "Upright Hedgehog Aloe" from *Caput Bonae Spei*. In the synonymy he gives Comm. Hort. Amst. (1701) fig. 13, (which is *Aloe africana foliis glaucis, margine et dorso integro spinosis*), and Comm. Prael. bot. (1703) fig. 20;—which is *Aloe Africana caulescens, foliis glaucis caulem amplectentibus, dorso integro spinoso*. Fig. 13 in *Hort. Amst.* II, illustrates a very young plant with few very weak spines, and might represent *A. ferox*. As regards fig. 20 in *Prael. Bot.*, this is also one of the six species raised from seed sent to Amsterdam in 1700 by Governor van der Stel, and as such, also most probably came from Swellendam or a neighbouring district.

I have photographed Commelin's figs. 19 and 20, and reproduce them herein (Plate 16). From a study of these interesting figures, it will be seen that there is scarcely any difference between them, and certainly not sufficient to suggest that they are specifically distinct.

Aiton in *Hort. Kew.* vol. II (1811) p. 293 cites Comm. prael. 71. t.20 in synonymy under *A. supralaevis* Haw., and records "Upright Hedgehog Aloe, native of the Cape of Good Hope. Cult. 1731 by Mr. Ph. Miller." Subsequent accounts of *A. supralaevis* contain nothing to suggest that *A. ferox* and *A. supralaevis* are specifically distinct, except that the leaf of the former is spiny both sides, and in the latter smooth above. Both are "Hedgehog Aloes," both are figured by Commelin, both were raised from seeds sent at the same time and from localities which could not have been far from Swellendam, which all points to their being conspecific.

What do we find near Swellendam to-day ? Are there two distinct species, or are there merely forms of one variable species ? I have not had an opportunity of examining plants as far west as Swellendam, but Dr. John Muir of Riversdale, assures me that in the Riversdale and Swellendam districts *A. ferox* occurs with leaves spiny both sides ; in some the leaves are less spiny, with intermediate degrees of spininess in others, but in all cases the inflorescence bears erect densely flowered cylindric-acuminate racemes, with flowers evenly distributed. The floral characters are remarkably uniform, and the degree of spininess of the leaves is not of specific importance.

Marloth (in *S.A. Gardening*, Nov. 1929, p. 354) in his description of *A. Tomlinsonii* (which he describes as a natural cross between *A. ferox* Mill. and *A. speciosa* Bak., from the Breede river valley near Swellendam), refers to an *A. ferox* var. *supralaevis.* and observes " *A. supralaevis* is not specifically distinct from the ordinary type of *A. ferox*." I cannot trace a description of this variety in any earlier publication, while no description is given in *S.A. Gardening*, his only reference to var. *supralaevis* being the observation " There is . . . not one plant to be seen which seriously deviates from the type of *A. ferox* var. *supralaevis*." Again in *Bothalia*, Vol. III, Part I, Aug. 1930, p. 143, Marloth states " Having recently . . . to study . . . hybrids between *A. ferox* var. *supralaevis* and *A. speciosa* Bak. . . . " It will be noted that in *S.A. Gard.* Marloth gives the one parent as being *A. ferox*, while in *Bothalia* it is *A. ferox* var. *supralaevis*. In the National Herbarium, Pretoria, there are two sheets labelled *A. ferox* Mill. var. *supralaevis* (author not stated) namely, Marloth 13690 ! near Napkysmond, bank of Breede River, July 1929, and Marloth without number ! Swellendam Dist. 12/8/29. It seems that Marloth mentioned the var. *supralaevis* merely in observations, and that the varietal name has had no valid publication and should, it appears, be dropped.

A. ferox Mill. in its various forms extends from Swellendam through the coastal and midland districts of the Eastern Cape Province to the Orange Free State, where it is found in the south-eastern corner of the Rouxville district, and along the valley of the Orange river from Aliwal North into southern Basutoland. It is also found in abundance near Queenstown, in tremendous quantities on the hills of the Kei river valley, and beyond Umtata into Pondoland. In these latter areas, plants are found mostly with leaves smooth both sides save for a few spines in median line dorsally near apex ; they do not agree with Haworth's description of *A. supralaevis* which is " irregularly spiny below," and appear to differ sufficiently from the typical spiny form to merit varietal rank.

In *A. ferox* we have an example of a species grading through intermediates from one form to another. The typical form grades into the varietal form. From Swellendam eastwards there is a gradual transition from leaves spiny on both sides to leaves smooth on both sides, from brownish to reddish marginal teeth, and from shorter to longer racemes. The flowering period appears to vary according to altitude and climatic conditions. Along the coastal belt plants flower in May—June, further inland (Queenstown) in July—August, Tarkastad in September, while from Aliwal North into Basutoland they flower in November. *A. Galpini* Bak. (1901) from Queenstown, will be referred to later

As regards *A. supralaevis* var. *erythrocarpa* Berger (l.c.) 309, this is described with leaves smooth both sides, rarely aculeate below, with red marginal teeth . . . , of unknown origin cultivated at La Mortola, localities cited being Riversdale, Graaff-Reinet, Uitenhage, Grahamstown and Queenstown. As has been pointed out already, the more eastern plants are less spiny or spineless forms of the species at Swellendam.

Therefore, from the date of its introduction into European gardens (1700), from the various published accounts, and from the knowledge of the plants found in South Africa to-day, it follows that *A. supralaevis* Haw. cannot be upheld as a distinct species, and must go into synonymy under *A. ferox* Mill. as a form with leaves less spiny than the typical. A. *supralaevis* Haw. var. *erythrocarpa* Berg. must be referred to *A. ferox* Mill. var. *Galpini* (Bak.) Reynolds hereunder described.

Aloe ferox Mill var. **Galpini** (Bak.) Reynolds.—*A. Galpini* Bak. in Kew Bull. (1901) 135 ; *A. supralaevis* Haw. var. *erythrocarpa* Berger (l.c.) 309.—Comb. nov., a forma typico foliis laevibus, dentibus rubris differt.

Hab. Cape Province : Kopjes near Klaas Smits River, Queenstown, Aug. 1897, Galpin 2335 ! ; Hills near Queenstown, fl. 31 Aug. 1936, Reynolds 2078 ! (type) ; Kloof of the Windvogelberg, Cathcart, fl. 28 Aug. 1936, Reynolds 2075 ! Transkei : near Komgha, Sept. 1892, Flanagan 1327 ! ; Kentani Dist. July 1913, Alice Pegler 1201 ! ; Kei Hills near Zig-zag, 23 June 1935, Reynolds 1416 ! ; Hills near Cala, 16 Aug. 1936, Reynolds 2049 ! . Basutoland : Quthing Dist. : Nov. 1913, Dieterlen 943 ! . " Sesotho name—Lekhala le lekolo." All in Nat. Herb. Pretoria. (Plate 17.)

Description.—Plant succulent, with stem 3—5 met. high, simple, rarely forked or branched, usually densely covered with the remains of old dry leaves. *Leaves* 50—60 in a dense capitate rosette, lanceolate-ensiform, up to 1 met. long, 15 cm. broad at base, dull green, sometimes reddish tinged ; upper surface slightly canaliculate, smooth ; lower surface convex, smooth save for a few reddish spines in median line near apex ; margins sinuate-dentate armed with reddish teeth about 6 mm. long, 10—20 mm. distant. *Inflorescence* one only, a branched panicle with 5—10 erect racemes. *Racemes* erect, unicoloured reddish to orange, cylindric slightly acuminate, very densely multi-flowered, 50—80 cm. long, 9—12 cm. diam. at base, about 6 cm. diam. at apex, the buds horizontally disposed and slightly laxer than the open flowers, the flowers first opening up the side facing the sun. *Pedicels* green, 4—5 mm. long. *Bracts* ovate-acute, 8—10 mm. long,. 3—5 mm. broad, thin scarious brownish, 3—5-nerved. *Perianth* scarlet to orange, clavate-cylindric, slightly ventricose, varying from 28 mm. to 40 mm. long, about 33 mm. the average. *Outer segments* free for about two-thirds their length, obscurely 3—5-nerved, the nerves reddish-orange, the apices subacute spreading. *Inner segments* free but dorsally adnate to the outer for one-third their length, with thin whitish margins, carinate with 3 congested nerves, the middle nerve usually more raised than the other two, the colour of the perianth, turning green at apex, the apices spreading to revolute, light to deep brown tipped. *Filaments* flattened, the 3 inner narrower and lengthening in advance of the 3 outer, the included part lemon, the exserted part (20 m.m) orange to brownish-orange eventually turning deep brown to black. *Anthers* the 3 inner and 3 outer in turn exserted 20—25 mm. *Stigma* exserted 20—25 mm., with the exserted portion of the style slightly lighter in colour than the filaments. *Ovary* 6—7 mm. long, 4 mm. diam., finely 6-grooved, green.

In his description of *A. Galpini*, Baker (l.c.) records " Cape Colony : mountain sides, Queenstown, alt. 3,500—4,000 ft., Galpin 2335." Fortunately, Galpin 2335 ! is in Nat. Herb. Pretoria. Berger (l.c.) 309 places *A. Galpini* in synonymy under *A. supralaevis* Haw., but the latter should now be referred to *A. ferox* Mill. *A. Galpini* cannot be upheld as a distinct species, but since the Queenstown etc. plants well merit varietal rank, *A. Galpini* may now correctly be referred to a variety to *A. ferox* Mill., with *A. supralaevis* Haw., var. *erythrocarpa* Berg. in synonymy. In order to observe the Rules of Nomenclature, Baker's spelling of the name is retained.

To recapitulate, the typical form of *A. ferox* is that in which the leaves are copiously spiny on both surfaces, the spines and marginal teeth brownish, the inflorescence (one only) bearing *erect* racemes with the flowers evenly distributed round the axis. This form is found in the stations furthest west for the species, namely the Swellendam and Riversdale districts of the Western Province ; but it is *not* the form most typical of the species as a whole throughout its 550 miles distribution from Swellendam to Basutoland and Pondoland. The greatest numbers occur with smooth leaves. I have chosen Queenstown and the Kei Hills as typical localities for the var. *Galpini* which is characterised by having smooth leaves, except sometimes for a few reddish spines dorsally near apex, reddish marginal teeth, and longer racemes sometimes reaching 80 cm. in length. The stem is mostly simple and covered with the remains of old dry leaves ; in the Kat river valley near Seymour (Stockenstroom Div.) a few specimens may be seen branched high up into six crowns, but this is unusual. In the Queenstown district I have found an occasional plant with racemes shaped like cricket bats or tennis racquets, due to fasciation, while I have also seen one plant with one of its racemes tripartite at the apex. I cannot recall ever having noticed any plant with more than one inflorescence ; usually there are 5—10 erect racemes, the racemes being longer than their branches, compactly grouped, with the whole inflorescence rather corymbose. Berger (l.c.) 308 figures *A. supralaevis* (now referred to *A. ferox* Mill.) with an inflorescence showing the terminal raceme standing out higher than the others ; this is not typical of *A. ferox.* In *A. candelabrum* Berger, so plentiful in the Umlaas and Umkomaas valleys in Natal, the terminal raceme is usually higher than the others, but *A. candelabrum* is readily distinguished by its more recurved leaves, the outer segments of the perianth greenish-nerved with the apices of the inner segments *white* ; in *A. ferox* and the var. *Galpini*, the nerves of the outer segments are reddish-orange, with the apices of the inner segments light to dark *brown.*

Space does not permit of a detailed discussion on natural hybrids, but it can be stated with reasonable certainty that *A. ferox* (or the var.) crosses with the following species :

A. africana Mill., plentiful in Albany and Uitenhage districts.
A. arborescens Mill. (=*A. SalmDyckiana*) Mossel Bay, Riversdale.
A. Broomii Schonl., near Aliwal North and Lady Grey.
A. microstigma Salm Dyck, Fort Brown, Carlisle Bridge, Albany Div., Bruintjes Hoogte near Somerset East.
A. pluridens Haw., Bedford Dist.
A. saponaria (Ait.) Haw., Umtata, Transkei
A. spicata Linn. f. (=*A. Tomlinsonii*, Marloth.) Swellendam Dist. ; Kirkwood, Fort Brown, Albany Div.
A. striata Haw. Hell Poort near Grahamstown

Note : As regards the reference to *A. spicata* Linn. fil., Marloth in *Bothalia* 1930, gives full reasons why *A. speciosa* Bak. should go into synonymy under *A. spicata*, Linn. f.

Aloe spectabilis Reynolds.—*A. ferox* Berger non Miller (l.c.) 310 ; *A. ferox* Berger non Miller var. *xanthostachys* Berger (l.c.) 310. Nom. nov. Affinis *A. Marlothii* Berger, sed racemis suberectis brevioribus differt. *A. ferox* Mill. (non Berger) planta tota diversa est.

Hab : Natal : Tugela river valley between Greytown and Helpmakaar, fl. 28 July, 1936, Reynolds 2033 ! (type) ; Mooi river valley near Keats Drift, fl. 28 July, 1936, Reynolds 2034 ! ; near Muden, fl. 28 July, 1936, Reynolds 2031 ! ; in the Biggarsberg near Waschbank, fl. 2 June 1935, Reynolds 1394 ! All in Nat. Herb. Pretoria. (Plate No. 18.)

Description. Plant succulent with simple stem 2—4 met. high. rarely forked high up, densely covered with the remains of old dry leaves. *Leaves* about 50, densely rosulate, lanceolate-ensiform, dull green, sometimes reddish tinged, about 1 met. long, 12—15 cm. broad at base ;

upper surface slightly concave, usually copiously spiny ; lower surface convex, copiously spiny throughout ; margins sinuate-dentate, armed with stout deltoid pungent teeth 5—7 mm. long, 10—20 mm. distant, varying in colour from reddish to brownish. *Inflorescence* a branched panicle, 1—3 from a rosette, each with up to 14 racemes. *Peduncle* very stout, flattened low down, brown, somewhat sulcate, sometimes bearing a few thorns, the lowest branches usually 2—3 branched. *Racemes* erect or sub-erect, rather truncate, mostly 25 cm. long, 9—10 cm. diam., densely multi-flowered, the buds and flowers more or less horizontally disposed, more evenly distributed in upper portion, slightly sub-secund below, the buds slightly redder than the yellow to golden yellow open flowers. *Bracts* ovate-acute, thin scarious, deep brown, reflexed, 4—5 mm. long, 5 mm. broad at base, 3—5-nerved. *Pedicels* 3 mm. long. *Perianth* yellow to golden-yellow, rather narrowly clavate-cylindric, 32 mm. long, about 5 mm. diam. at base, slightly decurved and enlarging to about 8 mm. diam. at throat. *Outer segments* free to the middle or beyond, faintly 3—5 greenish nerved, the 2 uppermost more closely grouped, with their apices somewhat falcately connivent. *Inner segments* free but dorsally adnate to the outer for one-third their length, broader than the outer, carinate with 3 congested yellowish nerves in median line, the margins pale lemon almost white, the apices more obtuse than the outer, with the revolute part dull to glossy deep purplish-black to black, and with the apical 5 mm. of the margins sometimes similarly coloured. *Filaments* flattened, the 3 inner narrower and lengthening in advance of the three outer, pale lemon within the perianth, the exserted part (20 mm.) orange. *Anthers* exserted 20 mm. *Style* lemon coloured within the perianth, the exserted part paler orange than that of the filaments, with the stigma at length exserted 20 mm. *Ovary* 7 mm. long, 3·5 mm. diam., finely 6-grooved, green.

Although also found elsewhere in Natal, the form most typical of the species occurs in large numbers in the Bushmans River valley near Weenen, along the Mooi River near Muden and Keats Drift, and especially in the valley of the Tugela River between Mpofana and Pomeroy on the Greytown—Dundee road. It is a very different species from *A. ferox* Mill. of the Cape, and Berger is incorrect in referring the Natal plants to Miller's species. Apart from the reasons already given, it should be remembered that *A. ferox* Mill. was in cultivation at a time (1700—1750) when, botanically speaking, Natal was a *terra incognita*. It follows that the Natal plants must be given a new name, and the name *A. ferox* Berger non Miller put into synonymy. On the other hand, the various publications and synonyms cited by Berger (l.c. 310) under *A. ferox* are correctly placed under *A. ferox* Mill. Berger's description of *A. ferox*

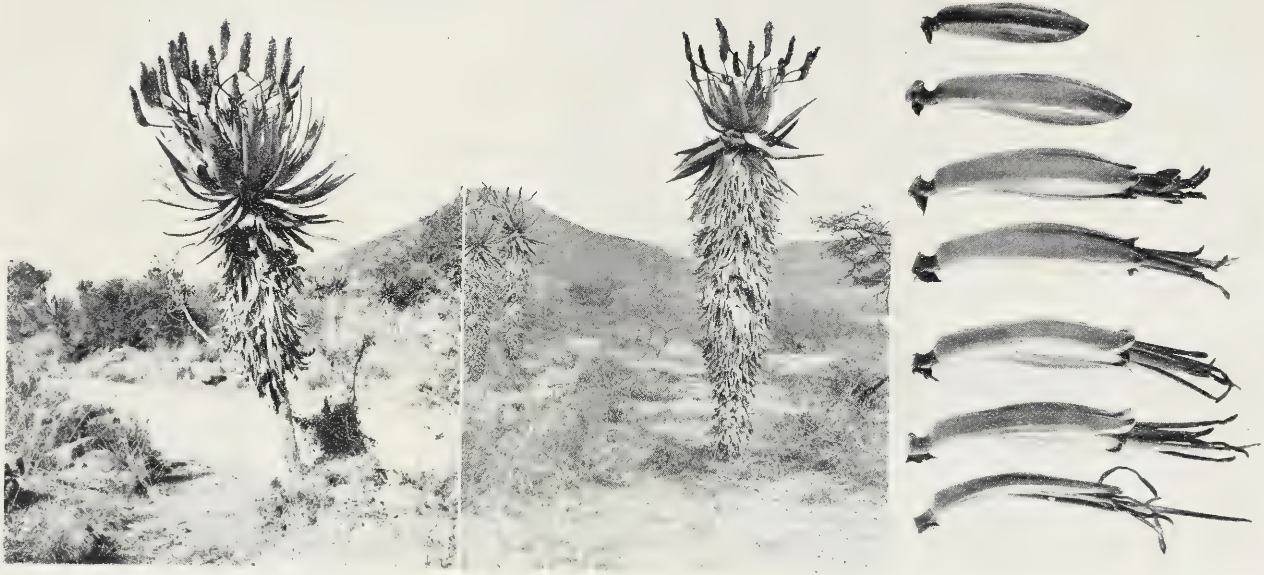


FIG. 1.

FIG. 2.

FIG. 3.

PLATE 18. *Aloe spectabilis* Reynolds.

FIG. 1. Plant with 3 inflorescences (33 racemes), fl. 2 July, 1934, in the valley of the Bushman's River, near Weenen, Natal.
FIG. 2. Plant with 1 inflorescence bearing 12 racemes, fl. 28 July, 1936, in the Mooi River valley, near Muden, height 12 feet.
FIG. 3. Flowers natural size, from a plant fl. 28 July, 1936, in the Tugela valley, between Greytown and Helpmakaar.

and his fig. 131, although not identical with my *A. spectabilis*, no doubt represent a cultivated form of this species.

The Natal species is much more closely related to *A. Marlothii* Berger than to *A. ferox* Mill. Berger (l.c. 312) cites Lobatsi and Johannesburg for typical *A. Marlothii ;* in these localities and throughout the hilly parts of the Transvaal, *A. Marlothii* bears longer narrower almost horizontal racemes with flowers very markedly secund, while in *A. spectabilis* the racemes are shorter and broader, more truncate and almost erect, with the flowers much more evenly distributed round the axis. Another important difference is that in *A. Marlothii* the apices of the inner segments and the exserted part of the filaments are light to deep *purple*, while in *A. spectabilis* the exserted part of the filaments is *orange*, and the apices of the inner segments dull to deep glossy ***black***. In some flowers it almost looks as if an artist had tipped the apices with glossy black enamel. This shows up fairly clearly in the second flower from the bottom in the accompanying figure.

A difficulty arises concerning plants further north-east in Zululand. Attention has already been drawn (This *Journal*, Jan., 1937) to certain species in the section *Saponariae* grading through intermediates from one to another ; the same thing happens with *A. spectabilis* and *A. Marlothii*. The Natal plants with shorter broader sub-erect racemes certainly appear specifically distinct from *A. Marlothii*. In the White Umfolozi valley, Zululand, plants occur with longer narrower sub-horizontal racemes and secund flowers so characteristic of *A. Marlothii*, but with orange (not purple) stamens. In the Black Umfolozi valley the stamens are more brownish-orange, while along the Lebombo range (Eastern boundary of Swaziland), they are mostly yellow to yellowish-orange. It seems that these plants must be regarded as being either yellow or orange stamened forms of *A. Marlothii*, or intermediates nearer *A. Marlothii*.

It will therefore be seen that from Natal through Zululand and Swaziland to the Transvaal and Bechuanaland, *A. spectabilis* grades into *A. Marlothii*. There is a gradual change from sub-erect to horizontal racemes, shorter (25 cm.) more truncate racemes to longer (30—35 cm.) narrower racemes with secund flowers, from yellow-orange to purple stamens, and from glossy black to dull purple inner segment apices. It might be advisable to record that *A. spectabilis* does not grade into *A. ferox*. In the country intervening between these two species, (*i.e.* south of Weenen and north-east of Pondoland) *A. candelabrum* is found, with *A. Thraskii* Bak. growing only along the beaches, especially between Durban and Port Shepstone.

Another name to be considered is *A. sigmoidea* Bak. (in *Journ. Linn.*

Soc. XVIII, 1880, 177) recorded from Amatongaland, collected by Cooper, and described from a young plant without flowers. If the Amatongaland of Baker is the country known by that name today, *i.e.* east of the Lebombo range in north-eastern Zululand, then, from Baker's description and the knowledge of the plants found in that area today, it seems that A. *sigmoidea* might be the yellow stamened form of *A. Marlothii*, or perhaps a cross of *A. Marlothii* with either *A. arborescens* Mill. or *A. sessiliflora* Pole Evans, the last mentioned not being scarce along the Lebombo range.

As regards natural hybrids of *A. spectabilis*, I have been informed of others, but have only personally noticed crosses with *A. arborescens* Mill. in the Biggarsberg, South of Dundee, and with *A. nitens* Bak. near Muden.

In an article on "*A. Marlothii*, some Forms and Hybrids" published in the *Journal of the Botanical Society of S. Africa*, 1935, I fear I followed Berger—not without hesitation—and referred to the Natal plants as being *A. ferox.* This was a mistake. If *A. spectabilis* is substituted for *A. ferox*, that article will now read correctly.

I wish to express my sincerest thanks to Dr. I. B. Pole Evans, C.M.G., Chief of the Division of Plant Industry, Pretoria, for his great kindness in affording me access to the Division's Library and for permission to photograph the text and figures of many of the earliest works; to Dr. E. P. Phillips, Principal Botanist, Dr. R. A. Dyer, Miss M. Gunn, Librarian, and Miss I. C. Verdoorn, Botanist, for assistance in collecting data; to Dr. H. G. Schweickerdt, at Kew, for copying the *Aloes* in Miller's Dictionary, ed. 6, and to Mrs. M. Moss, Witwatersrand University, for kindly affording me an opportunity of consulting and photographing the *Aloes* in *Miller's Dictionary*, ed. 8, and *Lamarck's Encyclopaedia*, 1783.